

## **Transgressive shoreline deposits of the Lower Cretaceous (Albian) Bluesky Formation in the Boyer and Steen field areas of northwestern Alberta**

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Abstract/Excerpt

In northwestern Alberta, at the northern edge of the pre-Cretaceous Central Alberta Ridge, there is a 400 km long series of gas fields that produce from the Lower Cretaceous Bluesky and Gething formations (fig.1). The study area covers some 700 townships (T98 – T118; R10w5 – 13w6) and is centered on the Boyer and Steen fields, just to the east of the 6<sup>th</sup> meridian. Mapping is based on 3,400 wells, with descriptions of over 100 cores.

The Boyer and Steen field areas produce gas from Bluesky transgressive shoreline sands in the thickest part of a large NW-SE trending Bluesky sub-basin (fig. 2). This basin abruptly terminates to the NW along a line that coincides with the Hay River basement fault zone. Within this basin the Bluesky Formation, which averages between 30m and 40m in thickness, onlaps the pre-Cretaceous ridge to the south and passes into marine shales in a northerly and westerly direction.

The Bluesky Formation in this area forms a progradational succession from a major marine flooding surface at the top of the underlying Gething Formation, to the overlying regional Moosebar marine transgression. A series of sandy, wave-dominated NW-SE trending Bluesky shoreface units parallel the pre-Cretaceous ridge, and prograde towards the NE. The Bluesky succession can be informally divided into three major depositional units; which are referred to here as the B3 to B1, in ascending order (fig. 3).